Claims

1. A process for producing an aromatic carbonate, which comprises the steps of:

(I) transesterifying a starting material selected from the group consisting of a dialkyl carbonate represented by the formula (1)

$$R^1OCOOR^1 \quad (1),$$

an alkyl aryl carbonate represented by the formula (2)

$$R^2OCOOAr^2 \quad (2)$$

and a mixture thereof with a reactant selected from the group consisting of an aromatic monohydroxy compound represented by the formula (3)

$$Ar^1OH \quad (3),$$

an alkyl aryl carbonate represented by the formula (4)

$$R^3OCOOAr^3 \quad (4)$$

and a mixture thereof,

wherein each of R^1, R^2 and R^3 independently represents an alkyl group having 1 to 10 carbon atoms, an alicyclic group having 3 to 10 carbon atoms or an aralkyl group having 6 to 10 carbon atoms, and each of Ar^1, Ar^2 and Ar^3 independently represents an aromatic group having 5 to 30 carbon atoms,

in the presence of a catalyst, to thereby obtain a high boiling point reaction mixture comprising:

at least one aromatic carbonate (a) which corresponds to the starting material and the reactant and is selected from the group consisting of an alkyl aryl carbonate represented by the formula (5)

$$ROCOOAr \qquad (5)$$

and a diaryl carbonate represented by the formula (6)

$$ArOCOOAr \qquad (6)$$

wherein R and Ar are, respectively, selected from the group consisting of R^1, R^2 and R^3 and selected from the group consisting of Ar^1, Ar^2 and Ar^3 in correspondence to the starting material and the reactant,

and

an aromatic carbonate ether (b) represented by the formula (7)

$$ROR^4OCOOAr \qquad (7)$$

wherein R and Ar are as defined above, and R^4 is a divalent group $-(CH_2)_m-$ (wherein m is an integer of from 2 to 4) which is unsubstituted or substituted with at least one substituent selected from the group consisting of an alkyl group having 1 to 10 carbon atoms and an aryl group having 6 to 10 carbon atoms,

while withdrawing a low boiling point reaction mixture which contains a low boiling point by-product comprising an aliphatic alcohol, a dialkyl carbonate or a mixture thereof corresponding to the starting material and the reactant and represented by at least one formula selected from the group consisting of ROH and ROCOOR, wherein R is as defined above, and

(II) separating said aromatic carbonate ether (b) from said high boiling point reaction mixture to thereby obtain a high purity aromatic carbonate.

2. The process according to claim 1, wherein the separation of said aromatic carbonate ether (b) in said step (II) is performed by distillation.

3. The process according to claim 1 or 2, wherein said step (I) is performed in a continuous manner or each of said steps (I) and (II) is performed in a continuous manner.

4. The process according to claim 3, wherein said starting material and said reactant are continuously fed to a continuous multi-stage distillation column to perform a transesterification reaction between said starting material and said reactant in a liquid phase or a gas-liquid phase in the presence of a metal-containing catalyst as said catalyst, while continuously withdrawing said high boiling point reaction mixture in a liquid form from a lower portion of the distillation column and continuously withdrawing said low boiling point reaction mixture in a gaseous form from an upper portion of the distillation column, thereby enabling the aromatic carbonate to be produced continuously,

wherein said aromatic carbonate ether (b) is separated from said high boiling point reaction mixture withdrawn from said distillation column.

5. The process according to any one of claims 1 to 4, wherein the content of said aromatic carbonate ether (b) in said high purity aromatic carbonate obtained in said step (II) is not more than 10 ppm by weight.

6. An aromatic carbonate produced by the process of any one of claims 1 to 5 from a starting material selected from the group consisting of a dialkyl carbonate represented by the formula (1)

$$R^1OCOOR^1 \qquad (1),$$

an alkyl aryl carbonate represented by the formula (2)

$$R^2OCOOAr^2 \qquad (2)$$

and a mixture thereof, and a reactant selected from the group consisting of an aromatic monohydroxy compound represented by the formula (3)

$$Ar^1OH \qquad (3),$$

an alkyl aryl carbonate represented by the formula (4)

$$R^3OCOOAr^3 \qquad (4)$$

and a mixture thereof,

wherein each of R^1, R^2 and R^3 independently represents an alkyl group having 1 to 10 carbon atoms, an alicyclic group having 3 to 10 carbon atoms or an aralkyl group having 6 to 10 carbon atoms, and each of Ar^1, Ar^2 and Ar^3 independently represents an aromatic group having 5 to 30 carbon atoms,

said aromatic carbonate containing an aromatic carbonate ether (b) represented by the formula (7)

$$ROR^4OCOOAr \qquad (7)$$

wherein R and Ar are, respectively, selected from the group consisting of R^1, R^2 and R^3 and selected from the group consisting of Ar^1, Ar^2 and Ar^3 in correspondence to the starting material and the reactant, and R^4 is a divalent group $-(CH_2)_m-$ (wherein m is an integer of from 2 to 4) which is unsubstituted or substituted with at least one substituent selected from the group consisting of an alkyl group having 1 to 10 carbon atoms and an aryl

group having 6 to 10 carbon atoms,

wherein the content of said aromatic carbonate ether (b) in said aromatic carbonate is not more than 10 ppm by weight.

7. An aromatic polycarbonate produced by subjecting an aromatic dihydroxy compound and the aromatic carbonate produced by the process of any one of claims 1 to 5 to a transesterification reaction.